

## NUTRIENT STANDARDS RULES (version 7.9ms) AND STATEMENTS OF REASONABLE NECESSITY

### **REASON: Overview of Why Base Numeric Nutrient Standards and Nutrient Standards Variances are Necessary.**

The board or department is proposing the adoption of new rules and rule modifications. These are: New Rule I; new definitions; a new circular (DEQ-12 Part A, adopted by the board) which contains numeric nutrient standards for total nitrogen and total phosphorus; DEQ-12 Part B which addresses variances from the standards (DEQ-12 Part B is adopted by the department); incorporation of circular DEQ-12 Part A into the surface water quality classifications (ARM 17.30.622 through 17.30.629); a low flow for base numeric nutrient standards appropriate for the design of disposal systems (ARM 17.30.635[2]); and incorporation of DEQ-12 into the nondegradation rules (ARM 17.30.702 and ARM 17.30.715).

The department has documented that various forms of nitrogen and phosphorus rank as the 4<sup>th</sup>, 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> most common types of pollution in Montana's flowing waters. In fact, excess nitrogen and phosphorus levels account for 17% of all stream miles impaired by all forms of water pollution in Montana. The intent of the proposed nutrient standards is to control the undesirable effects of eutrophication. Eutrophication is the enrichment of a waterbody (e.g., a stream or lake) by nitrogen and phosphorus, which leads to increased plant and algae growth and decay and all the consequential changes to the water quality that occur as a result. At present the state does not have numeric water quality standards for controlling eutrophication except on the Clark Fork River. Therefore, in most cases, permit limits (including waste load allocations determined in Total Maximum Daily Loads, i.e. TMDLs) are based upon the narrative water quality standard. The narrative standard prohibits substances in water that "create conditions which produce undesirable aquatic life" (ARM 17.30.637[1][e]). Translating the narrative standard into enforceable permit limits on a case-by-case basis is time-consuming, dependent upon judgment which invites controversy, and may result in inconsistent or differing permit limits due to various interpretations among permit or TMDL writers. Numeric nutrient criteria will resolve this.

The effects of excess nitrogen and phosphorus in streams and rivers go well beyond the undesirable aquatic life referred to in the narrative standard. Excess nitrogen and phosphorus affect other water quality parameters for which the state already has standards (dissolved oxygen, pH). The state-of-the-science is such that linkages can clearly be made between nitrogen and phosphorus concentrations and these other, already-adopted standards. Thus, the numeric nutrient criteria will also assure protection and attainment of the state's dissolved oxygen and pH standards which are, in and of themselves, critical to the protection of fish and aquatic life.

The nutrient criteria concentrations being proposed for adoption as standards are generally low, particularly in the western region of Montana. In many cases the concentrations are below the limits of current wastewater treatment technology, particularly for nitrogen. Therefore, when little or no stream dilution is available, dischargers will find it difficult or impossible to meet the standards. Senate Bill 95 (2009 Legislature) and Senate Bill 367 (2011 Legislature), now codified at §75-5-313, MCA addressed the high cost and technological difficulties associated with meeting the nutrient standards in the short term. §75-5-313, MCA allows dischargers to be granted variances from numeric nutrient standards—once the criteria have been adopted as standards—in those cases where meeting the standards today would be an unreasonable economic burden or technologically infeasible. Variances

from the standards may be granted for up to twenty years. Thus, §75-5-313, MCA allows for the nutrient standards to be met in a staged manner over time as alternative effluent management methods are considered, nutrient removal technologies become more cost-effective and efficient, and nonpoint sources of nutrients are addressed.

Rules or rule modifications (and Reasons thereof) that implement §75-5-313, MCA are mainly found below in New Rule I, however they are found throughout ARM Title 17, chapter 30, subchapters 6 and 7; specific details are provided in the Reasons for each rule amendment proposal.

## Subchapter 6

## Surface Water Quality Standards and Procedures

17.30.601 POLICY (1) The following standards are adopted to conserve water by protecting, maintaining, and improving the quality and potability of water for public water supplies, wildlife, fish and aquatic life, agriculture, industry, recreation, and other beneficial uses. (History: 75-5-201, 75-5-301, MCA; IMP, 75-5-301, MCA; Eff. 12/31/72; AMD, Eff. 11/4/73; AMD, Eff. 9/5/74; AMD, 1980 MAR p. 2252, Eff. 8/1/80; TRANS, from DHES, 1996 MAR p. 1499.)

17.30.602 DEFINITIONS In this subchapter the following terms have the meanings indicated below and are supplemental to the definitions given in 75-5-103, MCA:

- (1) "Bioconcentrating parameters" means the parameters listed in department Circular DEQ-7 which have a bioconcentration factor greater than 300.
- (2) "Carcinogenic parameters" means the parameters categorized as carcinogens in department Circular DEQ-7.
- (3) "Chlorophyll a" means the mass of chlorophyll a pigment after correction for phaeophytins.
- (4) "Conduit" means any artificial or natural duct, either open or closed, capable of conveying liquids or pollutants.
- (5) "Conventional water treatment" means in order of application the processes of coagulation, sedimentation, filtration, and disinfection. If determined necessary by the department it also includes taste and odor control and lime softening.
- (6) "Dewatered stream" means a perennial or intermittent stream from which water has been removed for one or more beneficial uses.
- (7) "Electrical conductivity (EC)" means the ability of water to conduct an electrical current at 25°C. The electrical conductivity of water represents the amount of total dissolved solids in the water and is expressed as microSiemens/centimeter ( $\mu\text{S}/\text{cm}$ ) or micromhos/centimeter ( $\mu\text{mh}/\text{cm}$ ) or equivalent units and is corrected to 25°C.
- (8) "Discharge" means the injection, deposit, dumping, spilling, leaking, placing, or failing to remove any pollutant so that it or any constituent thereof may enter into state waters, including ground water.
- (9) "EPA" means the US Environmental Protection Agency.
- (10) "Ephemeral stream" means a stream or part of a stream which flows only in direct response to precipitation in the immediate watershed or in response to the melting of a cover of snow and ice and whose channel bottom is always above the local water table.
- (11) "Geometric mean" means the value obtained by taking the Nth root of the product of the measured values where zero values for measured values are taken to be the detection limit.
- (12) "Harmful parameters" means parameters listed as harmful in department Circular DEQ-7.

(13) "Intermittent stream" means a stream or reach of a stream that is below the local water table for at least some part of the year, and obtains its flow from both surface run-off and ground water discharge.

(14) "Mixing zone" is defined in 75-5-103, MCA, and also means a limited area of a surface water body or a portion of an aquifer, where initial dilution of a discharge takes place and where water quality changes may occur and where certain water quality standards may be exceeded.

(15) "MPDES" means the Montana pollutant discharge elimination system.

(16) "NPDES" means the national pollutant discharge elimination system.

(17) "Naturally occurring" means conditions or material present from runoff or percolation over which man has no control or from developed land where all reasonable land, soil and water conservation practices have been applied. Conditions resulting from the reasonable operation of dams in existence as of July 1, 1971, are natural.

(18) "Nonpoint source" means the source of pollutants which originates from diffuse runoff, seepage, drainage, or infiltration.

(19) "Outstanding resource water" or "ORW" has the meaning set out in 75-5-103, MCA.

(20) "Pesticide" means insecticides, herbicides, rodenticides, fungicides, or any substance or mixture of substances intended for preventing, destroying, controlling, repelling, altering life processes, or mitigating any insects, rodents, nematodes, fungi, weeds, and other forms of plant or animal life.

(21) "Phaeophytins" means the degradation products of chlorophyll.

(22) "Pollutants" means sewage, industrial wastes, and other wastes as those terms are defined in 75-5-103, MCA.

(23) "Reasonable land, soil, and water conservation practices" means methods, measures, or practices that protect present and reasonably anticipated beneficial uses. These practices include, but are not limited to, structural and nonstructural controls and operation and maintenance procedures. Appropriate practices may be applied before, during, or after pollution-producing activities.

(24) "Seasonal lake or pond" means a natural depression in the land surface that periodically holds water from precipitation or snow and ice melt in the immediate watershed.

(25) "Sodium adsorption ratio (SAR)" means a value representing the relative amount of sodium ions to the combined amount of calcium and magnesium ions in water using the following formula:  $SAR = [Na]/([Ca] + [Mg])^{1/2}$ , where all concentrations are expressed as milliequivalents of charge per liter.

(26) "Secondary contact recreation" means activities in or on the water where the potential for immersion or ingestion of water is low, such as wading or boating.

(27) "Sediment" means solid material settled from suspension in a liquid; mineral or organic solid material that is being transported or has been moved from its site of origin by air, water, or ice and has come to rest on the earth's surface, either above or below sea level; or inorganic or organic particles originating from weathering, chemical precipitation, or biological activity.

(28) "Semi-permanent lake or pond" means a natural depression in the land surface, not including reservoirs, that receives ground water in addition to precipitation runoff from the immediate watershed, and occasionally goes dry.

(29) "Settleable solids" means inorganic or organic particles that are being transported or have been transported by water from the site or sites of origin and are settled or are capable of being settled from suspension.

(30) "Sewer" means a pipe or conduit that carries wastewater or drainage water.

(31) "Surface waters" means any waters on the earth's surface including, but not limited to, streams, lakes, ponds, and reservoirs; and irrigation and drainage systems discharging directly into a stream, lake, pond, reservoir, or other surface water. Water bodies used solely for treating, transporting, or impounding pollutants shall not be considered surface water.

(32) "Storm sewer" or "storm drain" means a pipe or conduit that carries storm water and surface water and street washings.

(33) "Total nitrogen" means the ~~total nitrogen concentration (as N) of unfiltered water. This may be determined by direct methods, or derived as the sum of the soluble (as N) and non-soluble (as N) nitrogen fractions. The filter used to separate the soluble and non-soluble fractions must be 0.45 µm~~ sum of all nitrate, nitrite, ammonia, and organic nitrogen, as N, in an unfiltered water sample. Total nitrogen in a sample may also be determined by persulfate digestion, or as the sum of total kjeldahl nitrogen plus nitrate plus nitrite.

(34) "Total phosphorus" means the ~~total phosphorus concentration (as P) of unfiltered water~~ sum of orthophosphates, polyphosphates, and organically bound phosphates, as P, in an unfiltered water sample. Total phosphorus may also be determined directly by persulfate digestion.

(35) "Toxic parameters" means those parameters listed as toxins in department Circular DEQ-7.

(36) "True color" means the color of water from which the turbidity has been removed.

(37) "Turbidity" means a condition in water or wastewater caused by the presence of suspended matter resulting in the scattering and absorption of light rays.

(38) "Use attainability analysis" means a scientific assessment and analysis of the factors affecting the attainment of a use(s). Information that may be used include chemical, physical and biological data, as well as photo documentation and comparison to reference conditions, that are of sufficient detail to accurately portray the level and potential level of use support of a waterbody. The use attainability analysis is required by the US EPA according to 40 CFR 131.10(g), (h) and (j).

(39) "DEQ-7" means the department circular that is adopted and incorporated by reference in ARM 17.30.619 and is entitled "Montana Numeric Water Quality Standards." This circular establishes water quality standards for toxic, carcinogenic, bioconcentration, ~~nutrient~~, radioactive, and harmful parameters, and also establishes human health-based water quality standards for the following specific nutrients with toxic effects: nitrate, nitrate + nitrite, and nitrite.

(42) "DEQ-12" means the department circular that is adopted and incorporated by reference in ARM 17.30.619 and is entitled "Montana Base Numeric Nutrient Standards and Nutrient Standards Variances". This circular contains numeric water quality standards for total nitrogen and total phosphorus in surface

waters, describes procedures for receiving a variance from the standards, and will document recipients of individual variances. (History: 75-5-201, 75-5-301, MCA; IMP, 75-5-301, MCA; Eff. 12/31/72; AMD, Eff. 11/4/73; AMD, Eff. 9/5/74; AMD, 1980 MAR p. 2252, Eff. 8/1/80; AMD, 1988 MAR p. 1191, Eff. 6/10/88; AMD, 1988 MAR p. 2221, Eff. 10/14/88; AMD, 1992 MAR p. 2064, Eff. 9/11/92; AMD, 1994 MAR p. 2136, Eff. 8/12/94; AMD, 1995 MAR p. 1798, Eff. 9/15/95; AMD, 1996 MAR p. 555, Eff. 2/23/96; TRANS, from DHES, 1996 MAR p. 1499; AMD, 1999 MAR p. 94, Eff. 1/15/99; AMD, 1999 MAR p. 2257, Eff. 10/8/99; AMD, 1999 MAR p. 2275, Eff. 10/8/99; AMD, 2002 MAR p. 387, Eff. 2/15/02; AMD, 2002 MAR p. 2196, Eff. 8/16/02; AMD, 2003 MAR p. 779, Eff. 4/25/03; AMD, 2006 MAR p. 528, Eff. 2/24/06; AMD, 2012 MAR p. 2060, Eff. 10/12/12.)

**REASON:** The proposed amendments to ARM 17.30.602 provide modification of existing definitions and a new definition in order to implement the nutrient standards. The modified definition of "Total nitrogen" (number 33) provides a more technically accurate description compared to the old definition. The same is true for "Total phosphorus" (number 34). In the definition for DEQ-7 (number 39), "nutrient" has been removed because base numeric nutrient standards will now be housed in a new department circular, circular DEQ-12. Some nitrogen compounds (nitrate, nitrite, and nitrate + nitrite) have toxic effects at relatively high concentrations and standards for them already exist and are intended to protect human health; by definition at §75-5-103(2)(b), MCA, these compounds are not considered part of the base numeric nutrients standards. Therefore, they will remain in DEQ-7 and are now listed under the DEQ-7 definition for better clarity. The new definition at (42), "DEQ-12", defines the new department circular where base numeric nutrient standards and variances from the standards will be housed. In addition to the criteria concentrations, the circular includes instructions on how to develop permits for base numeric nutrient standards, more information on how the department will go about granting nutrient standards variances, and a table to document recipients of individual variances. As there are likely to be modifications and additions to parts of DEQ-12 going forward, the department concluded that a circular would be the best means by which this complex information could be routinely updated. And, of equal importance, all of the information will be made available to the public in a single document.

ADMINISTRATIVE RULES OF MONTANA  
17.30.619

12/31/12

17-2693

ENVIRONMENTAL QUALITY

17.30.619 INCORPORATIONS BY REFERENCE (1) The board adopts and incorporates by reference the following state and federal requirements and procedures as part of Montana's surface water quality standards:

(a) Department Circular DEQ-7, entitled "Montana Numeric Water Quality Standards" (October 2012 edition), which establishes water quality standards for toxic, carcinogenic, bioconcentrating, ~~nutrient~~, radioactive, and harmful parameters and also establishes human health-based water quality standards for the following specific nutrients with toxic effects: nitrate; nitrate + nitrite; and nitrite;

(b) the Water Quality Standards Handbook, Second Edition, EPA-823-B-94-005a, August 1994, that sets forth procedures for development of site-specific criteria;

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(c) 40 CFR Part 136 (July 1, 2011), which establishes guidelines and procedures for the analysis of pollutants; and

(d) 40 CFR 131.10(g), (h) and (j) (2000), which establishes criteria and guidelines for conducting a use attainability analysis;

(e) Department Circular DEQ-12, entitled "Montana Base Numeric Nutrient Standards and Nutrient Standards Variances," Part A (December 2013 edition), which establishes numeric water quality standards for total nitrogen and total phosphorus in surface waters.

(2) The department adopts and incorporates by reference the following as part of Montana's surface water quality standards: Department Circular DEQ-12, entitled "Montana Base Numeric Nutrient Standards and Nutrient Standards Variances," Part B (December 2013 edition), which establishes variances from the numeric water quality standards for total nitrogen and total phosphorus in surface waters adopted by the board in Part A of Department Circular DEQ-12.

(3) if a court of competent jurisdiction declares section 75-5-313 or any portion of that statute invalid, or if the United States environmental protection agency disapproves section 75-5-313 or any portion of that statute under 30 C.F.R. 131.21, then subsection (1)(e) and section (2) are void, and the narrative water quality standards contained in 17.30.637 are the standards for total nitrogen and total phosphorus in surface water (except for the Clark Fork River, for which the standards are the numeric standards in 17.30.631).

(24) Copies of the materials listed in (1) may be obtained from the Department of Environmental Quality, P.O. Box 200901, Helena, MT 59620-0901. (History: 75-5-201, 75-5-301, MCA; IMP, 75-5-301, MCA; NEW, 2002 MAR p. 387, Eff. 2/15/02; AMD, 2002 MAR p. 2196, Eff. 8/16/02; AMD, 2003 MAR p. 217, Eff. 2/14/03; AMD, 2004 MAR p. 725, Eff. 4/9/04; AMD, 2006 MAR p. 528, Eff. 2/24/06; AMD, 2008 MAR p. 946, Eff. 5/9/08; AMD, 2010 MAR p. 1796, Eff. 8/13/10; AMD, 2012 MAR p. 2060, Eff. 10/12/12.)

REASON: The proposed amendments to ARM 17.30.619 allow for dated versions of new department circular DEQ-12 to be incorporated into other parts of the rules. It is likely that DEQ-12 will be updated through time and these future changes will affect permit limits, TMDLs, etc. As such, the document needs to be dated so that users will know which version is current. In amended (e) of the rule, reference is made to Part A of DEQ-12. Part A includes tables of the base numeric nutrient standards and, as such, is to be adopted by the board pursuant to its authority to adopt water quality standards at §75-5-301(2), MCA. The amendments to the definitions for Circular DEQ-7 (a) correspond to those already discussed above for definitions (ARM 17.30.602). Amended (2) of the rule addresses Part B of Circular DEQ-12, which focuses on nutrient standards variances and how these are to be implemented and updated. DEQ-12 is not adopted by the board but is instead adopted by the department. Part B of DEQ-12 may also change through time (for example, if individual variances are granted they will be documented here), and so it needs to be a dated document as provided for here in (2). Part 3 of the rule is a non-severability clause. Essentially, if the statute that defines the nutrient standards variance process is rendered invalid, then the base numeric nutrient standards would no longer be contained in the rules. The legislature intended that variances be available to permittees once base numeric nutrient standards were adopted and both pieces (base numeric standards, variances) must remain together as a package.

(h) No increases of carcinogenic, bioconcentrating, toxic or harmful parameters, pesticides, and organic and inorganic materials, including heavy metals, above naturally occurring concentrations, are allowed.

(i) No increase in radioactivity above natural background levels is allowed. (History: 75-5-201, 75-5-301, MCA; IMP, 75-5-301, MCA; Eff. 12/31/72; AMD, Eff. 11/4/73; AMD, Eff. 9/5/74; AMD, 1980 MAR p. 2252, Eff. 8/1/80; AMD, 1988 MAR p. 1191, Eff. 6/10/88; AMD, 1994 MAR p. 2136, Eff. 8/12/94; TRANS, from DHES, and AMD, 1996 MAR p. 1499, Eff. 6/7/96; AMD, 2002 MAR p. 387, Eff. 2/15/02; AMD, 2006 MAR p. 528, Eff. 2/24/06.)

17.30.622 A-1 CLASSIFICATION STANDARDS (1) Waters classified A-1 are to be maintained suitable for drinking, culinary and food processing purposes after conventional treatment for removal of naturally present impurities.

(2) Water quality must be maintained suitable for bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

(3) No person may violate the following specific water quality standards for waters classified A-1:

(a) The geometric mean number of Escherichia coli bacteria may not exceed 32 colony forming units per 100 milliliters and 10% of the samples may not exceed 64 colony forming units per 100 milliliters during any 30-day period if resulting from domestic sewage.

(b) Dissolved oxygen concentration must not be reduced below the applicable standards given in department Circular DEQ-7.

(c) Induced variation of hydrogen ion concentration (pH) within the range of 6.5 to 8.5 must be less than 0.5 pH unit. Natural pH outside this range must be maintained without change. Natural pH above 7.0 must be maintained above 7.0.

(d) No increase above naturally occurring turbidity or suspended sediment is allowed except as permitted in 75-5-318, MCA.

(e) A 1°F maximum increase above naturally occurring water temperature is allowed within the range of 32°F to 66°F; within the naturally occurring range of 66°F to 66.5°F, no discharge is allowed which will cause the water temperature to exceed 67°F; and where the naturally occurring water temperature is 66.5°F or greater, the maximum allowable increase in water temperature is 0.5°F. A 2°F-per-hour maximum decrease below naturally occurring water temperature is allowed when the water temperature is above 55°F. A 2°F maximum decrease below naturally occurring water temperature is allowed within the range of 55°F to 32°F.



(f) No increases are allowed above naturally occurring concentrations of sediment or suspended sediment (except as permitted in 75-5-318, MCA), settleable solids, oils, or floating solids, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

(g) True color must not be increased more than two color units above naturally occurring color.

(h) Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient, or harmful parameters may not exceed the applicable standards set forth in department Circular DEQ-7 and, unless a nutrient standards variance from the base numeric nutrient standards has been granted pursuant to DEQ-12 Part B, Circular DEQ-12 Part A.

(i) Dischargers issued permits under ARM Title 17, chapter 30, subchapter 13, shall conform with ARM Title 17, chapter 30, subchapter 7, the nondegradation rules, and may not cause receiving water concentrations to exceed the applicable standards contained in department Circular DEQ-7 and, when applicable, the base numeric nutrient standards or nutrient standards variances in DEQ-12 when stream flows equal or exceed the design flows specified in ARM 17.30.635(42).

(j) If site-specific criteria for aquatic life are adopted using the procedures given in 75-5-310, MCA, the criteria shall be used as water quality standards for the affected waters and as the basis for permit limits instead of the applicable standards in department Circular DEQ-7.

(k) In accordance with 75-5-306(1), MCA, it is not necessary that wastes be treated to a purer condition than the natural condition of the receiving water as long as the minimum treatment requirements, adopted pursuant to 75-5-305, MCA, are met. (History: 75-5-201, 75-5-301, MCA; IMP, 75-5-301, MCA; Eff. 12/31/72; AMD, Eff. 11/4/73; AMD, Eff. 9/5/74; AMD, 1980 MAR p. 2252, Eff. 8/1/80; AMD, 1984 MAR p. 1802, Eff. 12/14/84; AMD, 1988 MAR p. 1191, Eff. 6/10/88; AMD, 1994 MAR p. 2136, Eff. 8/12/94; AMD, 1995 MAR p. 1798, Eff. 9/15/95; AMD, 1996 MAR p. 555, Eff. 2/23/96; TRANS, from DHES, and AMD, 1996 MAR p. 1499, Eff. 6/7/96; AMD, 1999 MAR p. 94, Eff. 1/15/99; AMD, 1999 MAR p. 2257, Eff. 10/8/99; AMD, 1999 MAR p. 2275, Eff. 10/8/99; AMD, 2002 MAR p. 1089, Eff. 2/15/02; AMD, 2006 MAR p. 528, Eff. 2/24/06.)

17.30.623 B-1 CLASSIFICATION STANDARDS (1) Waters classified B-1 are to be maintained suitable for drinking, culinary, and food processing purposes, after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

(2) No person may violate the following specific water quality standards for waters classified B-1:

(a) The water quality standard for Escherichia coli bacteria (E-coli) varies according to season, as follows:

(i) from April 1 through October 31, the geometric mean number of E-coli may not exceed 126 colony forming units per 100 milliliters and 10% of the total samples may not exceed 252 colony forming units per 100 milliliters during any 30-day period; and

(ii) from November 1 through March 31, the geometric mean number of E-coli may not exceed 630 colony forming units per 100 milliliters and 10% of the samples may not exceed 1,260 colony forming units per 100 milliliters during any 30-day period.

(b) Dissolved oxygen concentration must not be reduced below the applicable standards given in department Circular DEQ-7.

(c) Induced variation of hydrogen ion concentration (pH) within the range of 6.5 to 8.5 must be less than 0.5 pH unit. Natural pH outside this range must be maintained without change. Natural pH above 7.0 must be maintained above 7.0.

(d) The maximum allowable increase above naturally occurring turbidity is five nephelometric turbidity units except as permitted in 75-5-318, MCA.

(e) A 1°F maximum increase above naturally occurring water temperature is allowed within the range of 32°F to 66°F; within the naturally occurring range of 66°F to 66.5°F, no discharge is allowed which will cause the water temperature to exceed 67°F; and where the naturally occurring water temperature is 66.5°F or greater, the maximum allowable increase in water temperature is 0.5°F. A 2°F per-hour maximum decrease below naturally occurring water temperature is allowed when the water temperature is above 55°F. A 2°F maximum decrease below naturally occurring water temperature is allowed within the range of 55°F to 32°F. This applies to all waters in the state classified B-1 except for Prickly Pear Creek from McClellan Creek to the Montana Highway No. 433 crossing where a 2°F maximum increase above naturally occurring water temperature is allowed within the range of 32°F to 65°F; within the naturally occurring range of 65°F to 66.5°F, no discharge is allowed which will cause the water temperature to exceed 67°F; and where the naturally occurring water temperature is 66.5°F or greater, the maximum allowable increase in water temperature is 0.5°F.

(f) No increases are allowed above naturally occurring concentrations of sediment or suspended sediment (except as permitted in 75-5-318, MCA), settleable solids, oils, or floating solids, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

(g) True color must not be increased more than five color units above naturally occurring color.

(h) Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient, or harmful parameters may not exceed the applicable standards set forth in department Circular DEQ-7 and, unless a nutrient standards variance from the base numeric nutrient standards has been granted pursuant to DEQ-12 Part B, Circular DEQ-12 Part A.

(i) Dischargers issued permits under ARM Title 17, chapter 30, subchapter 13, shall conform with ARM Title 17, chapter 30, subchapter 7, the nondegradation rules, and may not cause receiving water concentrations to exceed the applicable standards specified in department Circular DEQ-7 and, when applicable, the base numeric nutrient standards or nutrient standards variances in DEQ-12 when stream flows equal or exceed the design flows specified in ARM 17.30.635(42).

(j) If site-specific criteria for aquatic life are adopted using the procedures given in 75-5-310, MCA, the criteria shall be used as water quality standards for the affected waters and as the basis for permit limits instead of the applicable standards in department Circular DEQ-7.

(k) In accordance with 75-5-306(1), MCA, it is not necessary that wastes be treated to a purer condition than the natural condition of the receiving water as long as the minimum treatment requirements, adopted pursuant to 75-5-305, MCA, are met. (History: 75-5-201, 75-5-301, MCA; IMP, 75-5-301, MCA; Eff. 12/31/72; AMD, Eff. 11/4/73; AMD, Eff. 9/5/74; AMD, 1980 MAR p. 2252, Eff. 8/1/80; AMD, 1982 MAR p. 1746, Eff. 10/1/82; AMD, 1984 MAR p. 1802, Eff. 12/14/84; AMD, 1988 MAR p. 1191, Eff. 6/10/88; AMD, 1994 MAR p. 2136, Eff. 8/12/94; AMD, 1995 MAR p. 1798, Eff. 9/15/95; AMD, 1996 MAR p. 555, Eff. 2/23/96; TRANS, from DHES, and AMD, 1996 MAR p. 1499, Eff. 6/7/96; AMD, 1999 MAR p. 94, Eff. 1/15/99; AMD, 1999 MAR p. 2257, Eff. 10/8/99; AMD, 1999 MAR p. 2275, Eff. 10/8/99; AMD, 2002 MAR p. 387, Eff. 2/15/02; AMD, 2006 MAR p. 528, Eff. 2/24/06.)

17.30.624 B-2 CLASSIFICATION STANDARDS (1) Waters classified B-2 are to be maintained suitable for drinking, culinary, and food processing purposes, after conventional treatment; bathing, swimming, and recreation; growth and marginal propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

(2) No person may violate the following specific water quality standards for waters classified B-2:

(a) The water quality standard for *Escherichia coli* bacteria (E-coli) varies according to season, as follows:

(i) from April 1 through October 31, the geometric mean number of E-coli may not exceed 126 colony forming units per 100 milliliters and 10% of the total samples may not exceed 252 colony forming units per 100 milliliters during any 30-day period; and

(ii) from November 1 through March 31, the geometric mean number of E-coli may not exceed 630 colony forming units per 100 milliliters and 10% of the samples may not exceed 1,260 colony forming units per 100 milliliters during any 30-day period.

(b) Dissolved oxygen concentration must not be reduced below the applicable standards given in department Circular DEQ-7.

(c) Induced variation of hydrogen ion concentration (pH) within the range of 6.5 to 9.0 must be less than 0.5 pH unit. Natural pH outside this range must be maintained without change. Natural pH above 7.0 must be maintained above 7.0.

(d) The maximum allowable increase above naturally occurring turbidity is 10 nephelometric turbidity units except as permitted in 75-5-318, MCA.

(e) A 1°F maximum increase above naturally occurring water temperature is allowed within the range of 32°F to 66°F; within the naturally occurring range of 66°F to 66.5°F, no discharge is allowed which will cause the water temperature to exceed 67°F; and where the naturally occurring water temperature is 66.5°F or greater, the maximum allowable increase in water temperature is 0.5°F. A 2°F per-hour maximum decrease below naturally occurring water temperature is allowed when the water temperature is above 55°F. A 2°F maximum decrease below naturally occurring water temperature is allowed within the range of 55°F to 32°F.

(f) No increases are allowed above naturally occurring concentrations of sediment or suspended sediment (except as permitted in 75-5-318, MCA), settleable solids, oils, or floating solids which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

(g) True color must not be increased more than five color units above naturally occurring color.

(h) Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient, or harmful parameters may not exceed the applicable standards set forth in department Circular DEQ-7 and, unless a nutrient standards variance from the base numeric nutrient standards has been granted pursuant to DEQ-12 Part B, Circular DEQ-12 Part A.

(i) Dischargers issued permits under ARM Title 17, chapter 30, subchapter 13, shall conform with ARM Title 17, chapter 30, subchapter 7, the nondegradation rules, and may not cause receiving water concentrations to exceed the applicable standards specified in department Circular DEQ-7 and, when applicable, the base numeric nutrient standards or nutrient standards variances in DEQ-12 when stream flows equal or exceed the design flows specified in ARM 17.30.635(42).

(j) If site-specific criteria for aquatic life are adopted using the procedures given in 75-5-310, MCA, the criteria shall be used as water quality standards for the affected waters and as the basis for permit limits instead of the applicable standards in department Circular DEQ-7.

(k) In accordance with 75-5-306(1), MCA, it is not necessary that wastes be treated to a purer condition than the natural condition of the receiving water as long as the minimum treatment requirements, adopted pursuant to 75-5-305, MCA, are met. (History: 75-5-201, 75-5-301, MCA; IMP, 75-5-301, MCA; Eff. 12/31/72; AMD, Eff. 11/4/73; AMD, Eff. 9/5/74; AMD, 1980 MAR p. 2252, Eff. 8/1/80; AMD, 1982 MAR p. 1746, Eff. 10/1/82; AMD, 1984 MAR p. 1802, Eff. 12/14/84; AMD, 1988 MAR p. 1191, Eff. 6/10/88; AMD, 1994 MAR p. 2136, Eff. 8/12/94; AMD, 1995 MAR p. 1798, Eff. 9/15/95; AMD, 1996 MAR p. 555, Eff. 2/23/96; TRANS, from DHES, and AMD, 1996 MAR p. 1499, Eff. 6/7/96; AMD, 1999 MAR p. 94, Eff. 1/15/99; AMD, 1999 MAR p. 2257, Eff. 10/8/99; AMD, 1999 MAR p. 2275, Eff. 10/8/99; AMD, 2002 MAR p. 387, Eff. 2/15/02; AMD, 2006 MAR p. 528, Eff. 2/24/06.)

17.30.625 B-3 CLASSIFICATION STANDARDS (1) Waters classified B-3 are to be maintained suitable for drinking, culinary, and food processing purposes, after conventional treatment; bathing, swimming, and recreation; growth and propagation of non-salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

(2) No person may violate the following specific water quality standards for waters classified B-3:

(a) The water quality standard for Escherichia coli bacteria (E-coli) varies according to season, as follows:

(i) from April 1 through October 31, the geometric mean number of E-coli may not exceed 126 colony forming units per 100 milliliters and 10% of the total samples may not exceed 252 colony forming units per 100 milliliters during any 30-day period; and

(ii) from November 1 through March 31, the geometric mean number of E-coli may not exceed 630 colony forming units per 100 milliliters and 10% of the samples may not exceed 1,260 colony forming units per 100 milliliters during any 30-day period.

(b) Dissolved oxygen concentration must not be reduced below the applicable standards specified in department Circular DEQ-7.

(c) Induced variation of hydrogen ion concentration (pH) within the range of 6.5 to 9.0 must be less than 0.5 pH unit. Natural pH outside this range must be maintained without change. Natural pH above 7.0 must be maintained above 7.0.

(d) The maximum allowable increase above naturally occurring turbidity is 10 nephelometric turbidity units except as permitted in 75-5-318, MCA.

(e) A 3°F maximum increase above naturally occurring water temperature is allowed within the range of 32°F to 77°F; within the naturally occurring range of 77°F to 79.5°F, no thermal discharge is allowed which will cause the water temperature to exceed 80°F; and where the naturally occurring water temperature is 79.5°F or greater, the maximum allowable increase in water temperature is 0.5°F. A 2°F per-hour maximum decrease below naturally occurring water temperature is allowed when the water temperature is above 55°F. A 2°F maximum decrease below naturally occurring water temperature is allowed within the range of 55°F to 32°F.

(i) These allowable increases apply to all waters in the state classified B-3, except for the mainstem of the Yellowstone River from the Billings water supply intake to the water diversion at Intake, where a 3°F maximum increase above naturally occurring water temperature is allowed within the range of 32°F to 79°F; within the range of 79°F to 81.5°F, no thermal discharge is allowed which will cause the water temperature to exceed 82°F; and where the naturally occurring water temperature is 81.5°F or greater, the maximum allowable increase in water temperature is 0.5°F.

(ii) From the water diversion at Intake to the North Dakota state line, a 3°F maximum increase above naturally occurring water temperature is allowed within the range of 32°F to 82°F; within the range of 82°F to 84.5°F, no thermal discharge is allowed which will cause the water temperature to exceed 85°F; and where the naturally occurring water temperature is 84.5°F or greater, the maximum allowable increase in water temperature is 0.5°F.

(f) No increases are allowed above naturally occurring concentrations of sediment or suspended sediment (except as permitted in 75-5-318, MCA), settleable solids, oils, or floating solids, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

(g) True color must not be increased more than five color units above naturally occurring color.

(h) Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient, or harmful parameters may not exceed the applicable standards set forth in department Circular DEQ-7 and, unless a nutrient standards variance from the base numeric nutrient standards has been granted pursuant to DEQ-12 Part B, Circular DEQ-12 Part A.

(i) Dischargers issued permits under ARM Title 17, chapter 30, subchapter 13, shall conform with ARM Title 17, chapter 30, subchapter 7, the nondegradation rules, and may not cause receiving water concentrations to exceed the applicable standards specified in department Circular DEQ-7 and, when applicable, the base numeric nutrient standards or nutrient standards variances in DEQ-12 when stream flows equal or exceed the design flows specified in ARM 17.30.635(42).

(j) If site-specific criteria for aquatic life are adopted using the procedures given in 75-5-310, MCA, the criteria shall be used as water quality standards for the affected waters and as the basis for permit limits instead of the applicable standards specified in department Circular DEQ-7.

(k) In accordance with 75-5-306(1), MCA, it is not necessary that wastes be treated to a purer condition than the natural condition of the receiving water as long as the minimum treatment requirements, adopted pursuant to 75-5-305, MCA, are met. (History: 75-5-201, 75-5-301, MCA; IMP, 75-5-301, MCA; Eff. 12/31/72; AMD, Eff. 11/4/73; AMD, Eff. 9/5/74; AMD, 1980 MAR p. 2252, Eff. 8/1/80; AMD, 1982 MAR p. 1746, Eff. 10/1/82; AMD, 1984 MAR p. 1802, Eff. 12/14/84; AMD, 1988 MAR p. 1191, Eff. 6/10/88; AMD, 1994 MAR p. 2136, Eff. 8/12/94; AMD, 1995 MAR p. 1798, Eff. 9/15/95; AMD, 1996 MAR p. 555, Eff. 2/23/96; TRANS, from DHES, and AMD, 1996 MAR p. 1499, Eff. 6/7/96; AMD, 1999 MAR p. 94, Eff. 1/15/99; AMD, 1999 MAR p. 2257, Eff. 10/8/99; AMD, 1999 MAR p. 2275, Eff. 10/8/99; AMD, 2002 MAR p. 387, Eff. 2/15/02; AMD, 2006 MAR p. 528, Eff. 2/24/06.)

17.30.626 C-1 CLASSIFICATION STANDARDS (1) Waters classified C-1 are to be maintained suitable for bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

(2) No person may violate the following specific water quality standards for waters classified C-1:

(a) The water quality standard for *Escherichia coli* bacteria (E-coli) varies according to season, as follows:

(i) from April 1 through October 31, the geometric mean number of E-coli may not exceed 126 colony forming units per 100 milliliters and 10% of the total samples may not exceed 252 colony forming units per 100 milliliters during any 30-day period; and

(ii) from November 1 through March 31, the geometric mean number of E-coli may not exceed 630 colony forming units per 100 milliliters and 10% of the samples may not exceed 1,260 colony forming units per 100 milliliters during any 30-day period.

(b) Dissolved oxygen concentration must not be reduced below the applicable standards given in department Circular DEQ-7.

(c) Induced variation of hydrogen ion concentration (pH) within the range of 6.5 to 8.5 must be less than 0.5 pH unit. Natural pH outside this range must be maintained without change. Natural pH above 7.0 must be maintained above 7.0.

(d) The maximum allowable increase above naturally occurring turbidity is five nephelometric turbidity units except as permitted in 75-5-318, MCA.

(e) A 1°F maximum increase above naturally occurring water temperature is allowed within the range of 32°F to 66°F; within the naturally occurring range of 66°F to 66.5°F, no discharge is allowed which will cause the water temperature to exceed 67°F; and where the naturally occurring water temperature is 66.5°F or greater, the maximum allowable increase in water temperature is 0.5°F. A 2°F per-hour maximum decrease below naturally occurring water temperature is allowed when the water temperature is above 55°F. A 2°F maximum decrease below naturally occurring water temperature is allowed within the range of 55°F to 32°F.

(f) No increases are allowed above naturally occurring concentrations of sediment or suspended sediment (except as permitted in 75-5-318, MCA), settleable solids, oils, or floating solids, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.



(g) True color must not be increased more than five color units above naturally occurring color.

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(h) Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient, or harmful parameters may not exceed the applicable standards specified in department Circular DEQ-7 and, unless a nutrient standards variance from the base numeric nutrient standards has been granted pursuant to DEQ-12 Part B, Circular DEQ-12 Part A.

(i) Dischargers issued permits under ARM Title 17, chapter 30, subchapter 13, shall conform with ARM Title 17, chapter 30, subchapter 7, the nondegradation rules, and may not cause receiving water concentrations to exceed the applicable standards specified in department Circular DEQ-7 and, when applicable, the base numeric nutrient standards or nutrient standards variances in DEQ-12 when stream flows equal or exceed the design flows specified in ARM 17.30.635(42).

(j) If site-specific criteria for aquatic life are adopted using the procedures given in 75-5-310, MCA, the criteria shall be used as water quality standards for the affected waters and as the basis for permit limits instead of the applicable standards in department Circular DEQ-7.

(k) In accordance with 75-5-306(1), MCA, it is not necessary that wastes be treated to a purer condition than the natural condition of the receiving water as long as the minimum treatment requirements, adopted pursuant to 75-5-305, MCA, are met. (History: 75-5-201, 75-5-301, MCA; IMP, 75-5-301, MCA; Eff. 12/31/72; AMD, Eff. 11/4/73; AMD, Eff. 9/5/74; AMD, 1980 MAR p. 2252, Eff. 8/1/80; AMD, 1982 MAR p. 1746, Eff. 10/1/82; AMD, 1984 MAR p. 1802, Eff. 12/14/84; AMD, 1988 MAR p. 1191, Eff. 6/10/88; AMD, 1994 MAR p. 2136, Eff. 8/12/94; AMD, 1995 MAR p. 1798, Eff. 9/15/95; AMD, 1996 MAR p. 555, Eff. 2/23/96; TRANS, from DHES, and AMD, 1996 MAR p. 1499, Eff. 6/7/96; AMD, 1999 MAR p. 94, Eff. 1/15/99; AMD, 1999 MAR p. 2257, Eff. 10/8/99; AMD, 1999 MAR p. 2275, Eff. 10/8/99; AMD, 2002 MAR p. 387, Eff. 2/15/02; AMD, 2006 MAR p. 528, Eff. 2/24/06.)

17.30.627 C-2 CLASSIFICATION STANDARDS (1) Waters classified C-2 are to be maintained suitable for bathing, swimming, and recreation; growth and marginal propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

(2) No person may violate the following specific water quality standards for waters classified C-2:

(a) The water quality standard for Escherichia coli bacteria (E-coli) varies according to season, as follows:

(i) from April 1 through October 31, the geometric mean number of E-coli may not exceed 126 colony forming units per 100 milliliters and 10% of the total samples may not exceed 252 colony forming units per 100 milliliters during any 30-day period; and

(ii) from November 1 through March 31, the geometric mean number of E-coli may not exceed 630 colony forming units per 100 milliliters and 10% of the samples may not exceed 1,260 colony forming units per 100 milliliters during any 30-day period.

(b) Dissolved oxygen concentration must not be reduced below the applicable standards given in department Circular DEQ-7. These levels apply to all waters in the state classified C-2 except for Ashley Creek below the bridge crossing on Airport Road where the dissolved oxygen concentrations may not be reduced below five mg/l from October 1 through June 1, nor below three mg/l from June 2 through September 30.

(c) Induced variation of hydrogen ion concentration (pH) within the range of 6.5 to 9.0 must be less than 0.5 pH unit. Natural pH outside this range must be maintained without change. Natural pH above 7.0 must be maintained above 7.0.

(d) The maximum allowable increase above naturally occurring turbidity is 10 nephelometric turbidity units except as permitted in 75-5-318, MCA.

(e) A 1°F maximum increase above naturally occurring water temperature is allowed within the range of 32°F to 66°F; within the naturally occurring range of 66°F to 66.5°F, no discharge is allowed which will cause the water temperature to exceed 67°F; and where the naturally occurring water temperature is 66.5°F or greater, the maximum allowable increase in water temperature is 0.5°F. A 2°F per-hour maximum decrease below naturally occurring water temperature is allowed when the

water temperature is above 55°F. A 2°F maximum decrease below naturally occurring water temperature is allowed within the range of 55°F to 32°F.

(f) No increases are allowed above naturally occurring concentrations of sediment or suspended sediment (except as permitted in 75-5-318, MCA, settleable solids, oils, or floating solids, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

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(g) True color must not be increased more than five color units above naturally occurring color.

(h) Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient, or harmful parameters may not exceed the applicable standards specified in department Circular ~~WQB~~DEQ-7 and, unless a nutrient standards variance from the base numeric nutrient standards has been granted pursuant to DEQ-12 Part B, Circular DEQ-12 Part A.

(i) Dischargers issued permits under ARM Title 17, chapter 30, subchapter 13, shall conform with ARM Title 17, chapter 30, subchapter 7, the nondegradation rules, and may not cause receiving water concentrations to exceed the applicable standards specified in department Circular DEQ-7 and, when applicable, the base numeric nutrient standards or nutrient standards variances in DEQ-12 when stream flows equal or exceed the design flows specified in ARM 17.30.635(42).

(j) If site-specific criteria for aquatic life are adopted using the procedures given in 75-5-310, MCA, the criteria shall be used as water quality standards for the affected waters and as the basis for permit limits instead of the applicable standards in department Circular DEQ-7.

(k) In accordance with 75-5-306(1), MCA, it is not necessary that wastes be treated to a purer condition than the natural condition of the receiving water as long as the minimum treatment requirements, adopted pursuant to 75-5-305, MCA, are met. (History: 75-5-201, 75-5-301, MCA; IMP, 75-5-301, MCA; Eff. 12/31/72; AMD, Eff. 11/4/73; AMD, Eff. 9/5/74; AMD, 1980 MAR p. 2252, Eff. 8/1/80; AMD, 1982 MAR p. 1746, Eff. 10/1/82; AMD, 1984 MAR p. 1802, Eff. 12/14/84; AMD, 1988 MAR p. 1191, Eff. 6/10/88; AMD, 1994 MAR p. 2136, Eff. 8/12/94; AMD, 1995 MAR p. 1798, Eff. 9/15/95; AMD, 1996 MAR p. 555, Eff. 2/23/96; TRANS, from DHES, and AMD, 1996 MAR p. 1499, Eff. 6/7/96; AMD, 1999 MAR p. 94, Eff. 1/15/99; AMD, 1999 MAR p. 2257, Eff. 10/8/99; AMD, 1999 MAR p. 2275, Eff. 10/8/99; AMD, 2002 MAR p. 387, Eff. 2/15/02; AMD, 2006 MAR p. 528, Eff. 2/24/06.)

REASON: The proposed amendments to ARM 17.30.622 through 627 incorporate circular DEQ-12 into the surface water classes. In each of the six use classes for surface water defined in ARM 17.30.622 through 627 (use classes A-1, B-1, B-2, B-3, C-1, and C-2), the lettered subsections under (2) define the water quality

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standards that no person may violate. These include subsection (h) which refers to water quality standards in Circular DEQ-7. The amendment to (h) is the incorporation of the nutrient concentrations found in Circular DEQ-12 Part A and, further, clarification that a person may violate the water quality standards in DEQ-12 Part A if they have been granted a nutrient standards variance pursuant to Part B of the circular. Amendments to subsection (i) of the rules address nondegradation and permits. Board adoption of the base numeric nutrient standards will alter the way the department applies nondegradation rules for nutrients. At present, nutrients are addressed by a narrative standard (discussed in the Overview) and, for narrative standards, the nonsignificance threshold (i.e., a level below which water quality degradation is assumed not to have occurred) is defined as a measurable change in aquatic life or ecological integrity. With the adoption of DEQ-12 Part A, nutrients will be numeric standards and, therefore, the approach by which nondegradation of surface waters is determined will change. For numeric standards, nonsignificance thresholds are calculated as a percent of the standard's concentration; thus, changes to (i) direct the department to the appropriate document (DEQ-12) to locate the numeric nutrient standards used to calculate nonsignificance thresholds.

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ADMINISTRATIVE RULES OF MONTANA  
WATER QUALITY

17.30.628

17.30.628 I CLASSIFICATION STANDARDS (1) The goal of the state of Montana is to have these waters fully support the following uses: drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming, and recreation; growth and propagation of fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply. An analysis will be performed for each of these waters during each triennial standards review period to determine the factors preventing or limiting attainment of the designated uses listed herein. Based on these analyses, the specific standards listed below will be

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adjusted to reflect any improvements which have occurred in water quality as a result of water quality control of nonpoint-source pollution.

(2) No person may violate the following specific water quality standards for waters classified I:

(a) The water quality standard for Escherichia coli bacteria (E-coli) varies according to seasons as follows:

(i) from April 1 through October 31, the geometric mean number of E-coli may not exceed 126 colony forming units per 100 milliliters and 10% of the total samples may not exceed 252 colony forming units per 100 milliliters during any 30-day period; and

(ii) from November 1 through March 31, the geometric mean number of E-coli may not exceed 630 colony forming units per 100 milliliters and 10% of the samples may not exceed 1,260 colony forming units per 100 milliliters during any 30-day period.

(b) Dissolved oxygen concentration must not be reduced below the applicable standards given in department Circular DEQ-7.

(c) Hydrogen ion concentration must be maintained within the range of 6.5 to 9.5.

(d) Except as permitted in 75-5-318, MCA, no increase in naturally occurring turbidity is allowed which will or is likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

(e) No increase in naturally occurring temperature is allowed which will or is likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

(f) No increases are allowed above naturally occurring concentrations of sediment or suspended sediment (except as permitted in 75-5-318, MCA), and settleable solids, oils, or floating solids, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

(g) No increase in naturally occurring true color is allowed which will or is likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

(h) No discharges of toxic, carcinogenic, or harmful parameters may commence or continue which lower, or are likely to lower, the overall water quality of these waters.

(i) As the quality of these waters improves due to control of nonpoint sources, point-source dischargers will be required to improve the quality of their discharges following the MPDES rules (ARM Title 17, chapter 30, subchapter 13).

(j) Beneficial uses are considered supported when the concentrations of toxic, carcinogenic, or harmful parameters in these waters do not exceed the applicable standards specified in department Circular DEQ-7 and DEQ-12 when stream flows equal or exceed the flows specified in ARM 17.30.635(42) or, alternatively, for aquatic life when site-specific criteria are adopted using the procedures given in 75-5-310, MCA. The limits shall be used as water quality standards for the affected waters and as the basis for permit limits instead of the applicable standards in department Circular DEQ-7.

(k) Limits for toxic, carcinogenic, or harmful parameters in new discharge permits issued pursuant to the MPDES rules (ARM Title 17, chapter 30, subchapter 13) are the larger of either the applicable standards specified in department Circular DEQ-7 and, when applicable, the base numeric nutrient standards or nutrient standards variances in DEQ-12, site-specific standards, or one-half of the mean in-stream concentrations immediately upstream of the discharge point. (History: 75-5-201, 75-5-301, MCA; IMP, 75-5-301, MCA; Eff. 12/31/72; AMD, Eff. 11/4/73; AMD, Eff. 9/5/74; AMD, 1980 MAR p. 2252, Eff. 8/1/80; AMD, 1982 MAR p. 1746, Eff. 10/1/82; AMD, 1988 MAR p. 1191, Eff. 6/10/88; AMD, 1994 MAR p. 2136, Eff. 8/12/94; AMD, 1995 MAR p. 1798, Eff. 9/15/95; AMD, 1996 MAR p. 555, Eff. 2/23/96; TRANS, from DHES, and AMD, 1996 MAR p. 1499, Eff. 6/7/96; AMD, 1999 MAR p. 94, Eff. 1/15/99; AMD, 1999 MAR p. 2257, Eff. 10/8/99; AMD, 1999 MAR p. 2275, Eff. 10/8/99; AMD, 2002 MAR p. 387, Eff. 2/15/02; AMD, 2006 MAR p. 528, Eff. 2/24/06.)

REASON: The proposed amendment to ARM 17.30.628 incorporates new circular DEQ-12 into the I surface water class. I class waterbodies are those which had severe human-caused pollution problems at the time the surface water class system was adopted in the 1970s, and it is the state's intent that these waterbodies will eventually support beneficial uses typical for ecologically-similar unimpacted waterbodies. Amendments to (j) incorporate DEQ-12 alongside DEQ-7.

17.30.629 C-3 CLASSIFICATION STANDARDS (1) Waters classified C-3 are to be maintained suitable for bathing, swimming, and recreation, and growth and propagation of non-salmonid fishes and associated aquatic life, waterfowl, and furbearers. The quality of these waters is naturally marginal for drinking, culinary, and food processing purposes, agriculture, and industrial water supply.

(2) No person may violate the following specific water quality standards for waters classified C-3:

(a) The water quality standard for *Escherichia coli* bacteria (E-coli) varies according to season, as follows:

(i) from April 1 through October 31, the geometric mean number of E-coli may not exceed 126 colony forming units per 100 milliliters and 10% of the total samples may not exceed 252 colony forming units per 100 milliliters during any 30-day period; and

(ii) from November 1 through March 31, the geometric mean number of E-coli may not exceed 630 colony forming units per 100 milliliters and 10% of the samples may not exceed 1,260 colony forming units per 100 milliliters during any 30-day period.

(b) Dissolved oxygen concentration must not be reduced below the applicable standards specified in department Circular DEQ-7.

(c) Induced variation of hydrogen ion concentration (pH) within the range of 6.5 to 9.0 must be less than 0.5 pH unit. Natural pH outside this range must be maintained without change. Natural pH above 7.0 must be maintained above 7.0.

(d) The maximum allowable increase above naturally occurring turbidity is 10 nephelometric turbidity units, except as permitted in 75-5-318, MCA.

(e) A 3°F maximum increase above naturally occurring water temperature is allowed within the range of 32°F to 77°F; within the range of 77°F to 79.5°F, no thermal discharge is allowed which will cause the water temperature to exceed 80°F; and where the naturally occurring water temperature is 79.5°F or greater, the maximum allowable increase in water temperature is 0.5°F. A 2°F per-hour maximum decrease below naturally occurring water temperature is allowed when the water temperature is above 55°F. A 2°F maximum decrease below naturally occurring water temperature is allowed within the range of 55°F to 32°F.

(f) No increases are allowed above naturally occurring concentrations of sediment or suspended sediment (except as permitted in 75-5-318, MCA), settleable solids, oils or floating solids, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

(g) True color must not be increased more than five color units above naturally occurring color.

(h) Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient, or harmful parameters may not exceed the applicable standards set forth in department Circular DEQ-7 and, unless a nutrient standards variance from the base numeric nutrient standards has been granted pursuant to DEQ-12 Part B, Circular DEQ-12 Part A.

(i) Dischargers issued permits under ARM Title 17, chapter 30, subchapter 13, shall conform with ARM Title 17, chapter 30, subchapter 7, the nondegradation rules, and may not cause receiving water concentrations to exceed the applicable standards specified in department Circular DEQ-7 and, when applicable, the base numeric nutrient standards or nutrient standards variances in DEQ-12 when stream flows equal or exceed the design flows specified in ARM 17.30.635(42).

(j) If site-specific criteria for aquatic life are adopted using the procedures given in 75-5-310, MCA, the criteria shall be used as water quality standards for the affected waters and as the basis for permit limits instead of the applicable standards specified in department Circular DEQ-7.

(k) In accordance with 75-5-306(1), MCA, it is not necessary that wastes be treated to a purer condition than the natural condition of the receiving water as long as the minimum treatment requirements, adopted pursuant to 75-5-305, MCA, are met. (History: 75-5-201, 75-5-301, MCA; IMP, 75-5-301, MCA; Eff. 12/31/72; AMD, Eff. 11/4/73; AMD, Eff. 9/5/74; AMD, 1980 MAR p. 2252, Eff. 8/1/80; AMD, 1982 MAR p. 1746, Eff. 10/1/82; AMD, 1984 MAR p. 1802, Eff. 12/14/84; AMD, 1988 MAR p. 1191, Eff. 6/10/88; AMD, 1994 MAR p. 2136, Eff. 8/12/94; AMD, 1995 MAR p. 1798, Eff. 9/15/95; AMD, 1996 MAR p. 555, Eff. 2/23/96; TRANS, from DHES, and AMD, 1996 MAR p. 1499, Eff. 6/7/96; AMD, 1999 MAR p. 94, Eff. 1/15/99; AMD, 1999 MAR p. 2257, Eff. 10/8/99; AMD, 1999 MAR p. 2275, Eff. 10/8/99; AMD, 2002 MAR p. 387, Eff. 2/15/02; AMD, 2006 MAR p. 528, Eff. 2/24/06; AMD, 2012 MAR p. 2060, Eff. 10/12/12.)

REASON: The proposed amendments to ARM 17.30.629 incorporate circular DEQ-12 into the C-3 surface water class. In ARM 17.30.629, the lettered subsections under (2) define the water quality standards that no person may violate; these include subsection (h) which refers to water quality standards in Circular DEQ-7. The amendment to (h) is the incorporation of the nutrient concentrations found in Circular DEQ-12 Part A and, further, clarification that a person may violate the water quality standards in DEQ-12 Part A if they have been granted a nutrient standards variance pursuant to Part B of the circular. Amendments to subsection (i) of the rules address nondegradation and permits. Board adoption of the base numeric nutrient standards will alter the way the department applies nondegradation rules for nutrients. At present, nutrients are addressed by a narrative standard (discussed in the Overview) and, for narrative standards, the nonsignificance threshold (i.e., a level below which water quality degradation is assumed not to have occurred) is defined as a measurable change in aquatic life or ecological integrity. With the adoption of DEQ-12 Part A, nutrients will be numeric standards and, as such, the approach by which degradation of surface waters is determined will change. For numeric standards, nonsignificance thresholds are calculated as a percent of the standard's concentration; thus, changes to (i) direct the department to the appropriate document (DEQ-12) to locate the numeric nutrient standards used to calculate nonsignificance thresholds.



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WATER QUALITY

17.30.635

17.30.635 GENERAL TREATMENT STANDARDS (1) The degree of waste treatment required to restore and maintain the quality of surface waters shall be based on the surface water quality standards and the following:

- (a) the state's policy of nondegradation of existing high water quality as described in 75-5-303, MCA;
- (b) present and anticipated beneficial uses of the receiving water;
- (c) the quality and nature of the flow of the receiving water;
- (d) the quantity and quality of the sewage, industrial waste or other waste to be treated; and
- (e) the presence or absence of other sources of pollution on the same watershed.

(2) For design of disposal systems, stream flow dilution requirements must be based on the minimum consecutive seven-day average flow which may be expected to occur on the average of once in ten years. When dilution flows are less than the above design flow at a point discharge, the discharge is to be governed by the permit conditions developed for the discharge through the waste discharge permit program. If the flow records on an affected surface water are insufficient to calculate a ten-year seven-day low flow, the department shall determine an acceptable stream flow for disposal system design. ~~The department shall determine the acceptable stream flow for disposal system design for controlling nitrogen and phosphorus concentrations.~~ For total nitrogen and total phosphorus, the stream flow dilution requirements must be based on the seasonal 14Q5, which is the lowest average 14 consecutive day low flow, occurring from July through October, with an average recurrence frequency of once in 5 years.

(3) Where the department has determined that the disposal of sewage may adversely affect the quality of a lake or other state waters, the department may require additional information and data concerning such possible effects. Upon review of such information the department may impose specific requirements for

sewage treatment and disposal as are necessary and appropriate to assure compliance with the Water Quality Act, Title 75, chapter 5, MCA. (History: 75-5-201, 75-5-301, MCA; IMP, 75-5-301, MCA; Eff. 12/31/72; AMD, Eff. 11/4/73; AMD, Eff. 9/5/74; AMD, 1980 MAR p. 2252, Eff. 8/1/80; AMD, 1982 MAR p. 1746, Eff. 10/1/82; AMD, 1984 MAR p. 1802, Eff. 12/14/84; TRANS, from DHES, and AMD, 1996 MAR p. 1499, Eff. 6/7/96; AMD, 2002 MAR p. 387, Eff. 2/15/02; AMD, 2006 MAR p. 528, Eff. 2/24/06; AMD, 2012 MAR p. 2060, Eff. 10/12/12.)

REASON: The proposed amendments to ARM 17.30.635 will provide a low flow for the design of disposal systems specific to eutrophication-based nutrient standards. The text of the rule that received strike-out was essentially placeholder language instructing the department to derive an appropriate low flow for nutrients. That work has now been completed. Work by the department and others shows that nuisance benthic algae can develop in about 15-20 days once nutrient concentrations exceed the proposed standards. In many streams these algae levels can ultimately lead to dissolved oxygen impacts. The department recommends the use of the seasonal 14Q5 flow for the design of disposal systems as this flow should not allow excess algae levels to develop more often than about once in every five summers, on average. This frequency of exceedence is within the acceptable recommendations of the U.S. Environmental Protection Agency for the protection of aquatic life. Unlike the 7Q10 flow, which will continue to be used for parameters in DEQ-7 and which was derived from year-round flow data, the seasonal 14Q5 flow is derived from July through October data and is therefore in alignment with the nutrient standards' periods of application. The seasonal 14Q5 is routinely calculated and reported by the U.S. Geological Survey and will be readily available for permit writers to use.

ADMINISTRATIVE RULES OF MONTANA  
WATER QUALITY

12/31/12

17-2745  
17.30.702

Subchapter 7

Nondegradation of Water Quality

17.30.701 PURPOSE (1) The purpose of this subchapter is to prohibit degradation of high quality state waters, except in certain limited circumstances, by implementing the nondegradation policy set forth in 75-5-303, MCA, and providing criteria and procedures for:

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- (a) determining which activities will degrade high quality waters;
- (b) department review and decision making;
- (c) determining the required water quality protection practices if degradation is authorized; and
- (d) public review and appeal of department decisions. (History: 75-5-301, 75-5-303, MCA; IMP, 75-5-301, MCA; NEW, 1994 MAR p. 2136, Eff. 8/12/94; TRANS, from DHES, 1996 MAR p. 1499.)

17.30.702 DEFINITIONS The following definitions, in addition to those in 75-5-103, MCA, apply throughout this subchapter (Note: 75-5-103, MCA, includes definitions for "base numeric nutrient standards," "degradation," "existing uses," "high quality waters," "mixing zone," and "parameter"):

- (1) "Bioconcentrating parameters" means the parameters listed in department Circular DEQ-7 which have a bioconcentration factor greater than 300.
- (2) "Carcinogenic parameters" means the parameters listed as carcinogens in department Circular DEQ-7.
- (3) "Degradation" is defined in 75-5-103, MCA, and also means any increase of a discharge that exceeds the limits established under or determined from a permit or approval issued by the department prior to April 29, 1993.
- (4) "Existing water quality" means the quality of the receiving water, including chemical, physical, and biological conditions immediately prior to commencement of the proposed activity or that which can be adequately documented to have existed on or after July 1, 1971, whichever is the highest quality.
- (5) "Ground water" means water occupying the voids within a geologic stratum and within the zone of saturation.
- (6) "Harmful parameters" means the parameters listed as harmful in department Circular DEQ-7.

- (7) "Highest statutory and regulatory requirements" means all applicable effluent limitations, water quality standards, permit conditions, water quality protection practices, or reasonable land, soil, and water conservation practices. It also means compliance schedules or corrective action plans for the protection of water issued under order of a court, department, or board of competent jurisdiction.
- (8) "High quality waters" is defined in 75-5-103(10), MCA, and does not include Class I surface waters (ARM 17.30.628) or Class III or Class IV ground waters (ARM 17.30.1006(3) through (4)).

(9) "Level 1a treatment" means a subsurface wastewater treatment system (SWTS) that:

(a) removes at least 50%, but less than 60%, of total nitrogen as measured from the raw sewage load to the system; or

(b) discharges a total nitrogen effluent concentration of greater than 24 mg/L, but not greater than 30 mg/L. The term does not include treatment systems for industrial waste. A level 1a designation allows the use of 30 mg/L nitrate (as N) as the nitrate effluent concentration for mixing zone calculations.

(10) "Level 1b treatment" means a SWTS that:

(a) removes at least 34%, but less than 50%, of total nitrogen as measured from the raw sewage load to the system; or

(b) discharges a total nitrogen effluent concentration of greater than 30 mg/L, but not greater than 40 mg/L. The term does not include treatment systems for industrial waste. A level 1b designation allows the use of 40 mg/L nitrate (as N) as the nitrate effluent concentration for mixing zone calculations.

(11) "Level 2 treatment" means a SWTS that:

(a) removes at least 60% of total nitrogen as measured from the raw sewage load to the system; or

(b) discharges a total nitrogen effluent concentration of 24 mg/L or less. The term does not include treatment systems for industrial waste.

(12) "Load" means the mass of a parameter per unit of time.

(13) "Management or conservation practice" means a measure to control or minimize pollution of ground and surface waters from a nonpoint source. Examples of such measures include, but are not limited to, revegetation of disturbed soil, grazing management to prevent overgrazing, contour farming, strip farming, protection of riparian areas, drainage control, and impoundments which detain surface runoff or irrigation return water for sediment control.

(14) "Mixing zone" is defined in 75-5-103, MCA, and also means a limited area of a surface water body or a portion of an aquifer, where initial dilution of a discharge takes place and where water quality changes may occur and where certain water quality standards may be exceeded.

(15) "Montana pollutant discharge elimination system" or "MPDES" means the permit system developed by the state of Montana for controlling the discharge of pollutants from point sources into state waters, pursuant to ARM Title 17, chapter 30, subchapter 13.

(16) "Montana ground water pollution control system" or "MGWPCS" means the permit system developed by the state of Montana for controlling the discharge of pollutants into state ground water, pursuant to ARM Title 17, chapter 30, subchapter 10.

~~(17)~~ "Nutrients" means total inorganic phosphorus and total inorganic nitrogen.

~~(4817)~~ "New or increased source" means an activity resulting in a change of existing water quality occurring on or after April 29, 1993. The term does not include the following:

(a) sources from which discharges to state waters have commenced or increased on or after April 29, 1993, provided the discharge is in compliance with the conditions of, and does not exceed the limits established under or determined from, a permit or approval issued by the department prior to April 29, 1993;

(b) nonpoint sources discharging prior to April 29, 1993;

(c) withdrawals of water pursuant to a valid water right existing prior to April 29, 1993; and

(d) activities or categories of activities causing nonsignificant changes in existing water quality pursuant to ARM 17.30.670, 17.30.715, 17.30.716, or 75-5-301(5)(c), MCA.

~~(4918)~~ "Nonpoint source" means a diffuse source of pollutants resulting from the activities of man over a relatively large area, the effects of which normally must be addressed or controlled by a management or conservation practice.

~~(2019)~~ "Outstanding resource waters" or "ORW" has the meaning set out in 75-5-103, MCA.

~~(2420)~~ "Permit" means either an MPDES permit or an MGWPCS permit.

~~(2221)~~ "Reporting values (RRV)" means the detection level that must be achieved in reporting surface water or ground water monitoring or compliance data to the department unless otherwise specified in a permit, approval, or authorization issued by the department. The RRV is the department's best determination of a level of analysis that can be achieved by the majority of commercial, university, or governmental laboratories using EPA approved methods or methods approved by the department. The RRV is listed in Circular DEQ-7, Part A of Circular DEQ-12, and in the definition of total inorganic phosphorus.

~~(2322)~~ "Surface waters" means any water on the earth's surface including, but not limited to, streams, lakes, ponds, and reservoirs and irrigation drainage systems discharging directly into a stream, lake, pond, reservoir, or other water on the earth's surface. Water bodies used solely for treating, transporting, or impounding pollutants are not considered surface water for the purposes of this subchapter.

(23) "Total inorganic phosphorus" means the sum of all orthophosphates, as P, in an unfiltered water sample. Total inorganic phosphorus may also be determined by direct colorimetry. The RRV for total inorganic phosphorus is 3 micrograms per liter.

(24) "Total nitrogen" means the sum of all nitrate, nitrite, ammonia, and organic nitrogen, as N, in an unfiltered water sample. Total nitrogen in a sample may also be determined by persulfate digestion, or as the sum of total kjeldahl nitrogen plus nitrate plus nitrite.

(25) "Total phosphorus" means the sum of orthophosphates, polyphosphates, and organically bound phosphates, as P, in an unfiltered water sample. Total phosphorus may also be determined directly by persulfate digestion.

(26) "Toxic parameters" means the parameters listed as toxic in department Circular DEQ-7.

(27) "Trigger values" means the values listed as trigger values in department Circular DEQ-7 for parameters categorized as toxic, and are used to determine if proposed activities will cause degradation.

(28) The board adopts and incorporates by reference:

(a) Department Circular DEQ-7, entitled "Montana Numeric Water Quality Standards" (October 2012 edition), which establishes water quality standards for toxic, carcinogenic, bioconcentrating, nutrient, radioactive, and harmful parameters and also establishes human health-based water quality standards for the following specific nutrients with toxic effects: nitrate; nitrate + nitrite, and nitrite;

(b) Department Circular DEQ-4, entitled "Montana Standards for Subsurface Wastewater Treatment Systems" (2009 edition), which establishes technical standards for construction of subsurface wastewater treatment systems; and

(c) 40 CFR Part 136 (July 1, 2007) which contains guidelines establishing test procedures for the analysis of pollutants.

(d) Department Circular DEQ-12, entitled "Montana Base Numeric Nutrient Standards and Nutrient Standards Variances," Part A (December 2013 edition), which establishes numeric water quality standards for total nitrogen and total phosphorus in surface waters.

(de) Copies of this material may be obtained from the Department of Environmental Quality, P.O. Box 200901, Helena, MT 59620-0901. (History: 75-5-301, 75-5-303, MCA; IMP, 75-5-303, MCA; NEW, 1994 MAR p. 2136, Eff. 8/12/94; AMD, 1995 MAR p. 1798, Eff. 9/15/95; AMD, 1996 MAR p. 555, Eff. 2/23/96; TRANS, from DHES, 1996 MAR p. 1499; AMD, 1999 MAR p. 94, Eff. 1/15/99; AMD, 1999 MAR p. 2257, Eff. 10/8/99; AMD, 1999 MAR p. 2275, Eff. 10/8/99; AMD, 2002 MAR p. 387, Eff. 2/15/02; AMD, 2003 MAR p. 217, Eff. 2/14/03; AMD, 2004 MAR p. 725, Eff. 4/9/04; AMD, 2004 MAR p. 1384, Eff. 6/18/04; AMD, 2006 MAR p. 528, Eff. 2/24/06; AMD, 2008 MAR p. 946, Eff. 5/9/08; AMD, 2009 MAR p. 1786, Eff. 10/16/09; AMD, 2010 MAR p. 1796, Eff. 8/13/10; AMD, 2012 MAR p. 2060, Eff. 10/12/12.)

Rules 17.30.703 and 17.30.704 reserved

REASON: The proposed amendments to ARM 17.30.702 will modify current definitions in the nondegradation rules and will add new definitions necessary for the implementation of numeric nutrient standards. "Base numeric nutrients standards" have been added to the list of definitions from §75-5-103, MCA that are incorporated by reference. The definition for "Nutrients" (17) is being repealed because it is not consistent with the use of the term in circular DEQ-12 (which contains standards for

total nutrients). The two soluble compounds (total inorganic phosphorus and total inorganic nitrogen) currently listed under (17) are found in DEQ-7, and there they are linked to the eutrophication narrative standard (17.30.637[1][e]) via footnote 8 of DEQ-7. These compounds are being superseded by the total nutrients in DEQ-12 Part A and will be removed from DEQ-7 during its next revision. Further, definition (17) added no clear value to the nondegradation rules because, where needed, specific nutrient compounds or forms (e.g., TKN, nitrate as N) are named or referenced in the nondegradation rules. The new definition at (23), "total inorganic phosphorus" is added here because its equivalent form ("phosphorus, inorganic") and associated RRV will be deleted from DEQ-7 during its next revision, as part of the overall movement of eutrophication-oriented nutrient standards to DEQ-12. This compound is only referred to in the nondegradation rules at ARM 17.30.715(1)(e) and there is no concentration limit associated with it; therefore, only a required reporting value (RRV) is provided here. The RRV has been modified (from 1 µg/L to 3 µg/L) to reflect routinely-achievable levels and is consistent with RRV derivation methods currently used for compounds in circulars DEQ-7 and DEQ-12. New definitions (24) and (25) correspond to those discussed above for amendments to ARM 17.30.602. In (28)(a), the department circular DEQ-7 definition has been amended for the same reasons described above for ARM 17.30.602. In new (28)(d), circular DEQ-12 Part A with a date is provided to assure that readers are using the most current version.

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WATER QUALITY 17.30.715

17.30.715 CRITERIA FOR DETERMINING NONSIGNIFICANT CHANGES IN WATER QUALITY (1) The following criteria will be used to determine whether certain activities or classes of activities will result in nonsignificant changes in existing water quality due to their low potential to affect human health or the environment. These criteria consider the quantity and strength of the pollutant, the length of time the changes will occur, and the character of the pollutant. Except as provided in (2), changes in existing surface or ground water quality resulting from the activities that meet all the criteria listed below are nonsignificant, and are not required to undergo review under 75-5-303, MCA:

(a) activities that would increase or decrease the mean monthly flow of a surface water by less than 15% or the seven-day 10 year low flow by less than 10%;

(b) discharges containing carcinogenic parameters or parameters with a bioconcentration factor greater than 300 at concentrations less than or equal to the concentrations of those parameters in the receiving water;

(c) discharges containing toxic parameters ~~or nutrients~~, except as specified in (1)(d) and (e), which will not cause changes that equal or exceed the trigger values in department Circular DEQ-7. Whenever the change exceeds the trigger value, the change is not significant if the resulting concentration outside of a mixing zone designated by the department does not exceed 15% of the lowest applicable standard;

(d) changes in the concentration of nitrate in ground water which will not cause degradation of surface water if the sum of the predicted concentrations of

nitrate at the boundary of any applicable mixing zone will not exceed the following values:

- (i) 7.5 mg/L for nitrate sources other than domestic sewage;
- (ii) 5.0 mg/L for domestic sewage effluent discharged from a conventional septic system;
- (iii) 7.5 mg/L for domestic sewage effluent discharged from a septic system using level two treatment, as defined in ARM 17.30.702; or
- (iv) 7.5 mg/L for domestic sewage effluent discharged from a conventional septic system in areas where the groundwater nitrate level exceeds 5.0 mg/L primarily from sources other than human waste.

For purposes of this subsection (d), the word "nitrate" means nitrate as nitrogen; and

(e) changes in concentration of total inorganic phosphorus in ground water if water quality protection practices approved by the department have been fully implemented and if an evaluation of the phosphorus adsorptive capacity of the soils in the area of the activity indicates that phosphorus will be removed for a period of 50 years prior to a discharge to any surface waters;

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(f) changes in the quality of water for any harmful parameter, including parameters listed in DEQ-12 Part A, for which water quality standards have been adopted other than ~~nitrogen, phosphorus,~~ and carcinogenic, bioconcentrating, or toxic parameters, in either surface or ground water, if the changes outside of a mixing zone designated by the department are less than 10% of the applicable standard and the existing water quality level is less than 40% of the standard;

(g) changes in the quality of water for any parameter for which there are only narrative water quality standards if the changes will not have a measurable effect on any existing or anticipated use or cause measurable changes in aquatic life or ecological integrity.

(2) Notwithstanding compliance with the criteria of (1), the department may determine that the change in water quality resulting from an activity which meets the criteria in (1) is degradation based upon the following:

- (a) cumulative impacts or synergistic effects;
- (b) secondary byproducts of decomposition or chemical transformation;
- (c) substantive information derived from public input;
- (d) changes in flow;
- (e) changes in the loading of parameters;
- (f) new information regarding the effects of a parameter; or
- (g) any other information deemed relevant by the department and that relates to the criteria in (1).



(3) The department may determine that a change in water quality resulting from an activity or category of activities is nonsignificant based on information submitted by an applicant that demonstrates conformance with the guidance found in 75-5-301(5)(c), MCA. In making a determination under this subsection, the department shall allow for public comment prior to a decision pursuant to the public notice procedures in ARM 17.30.1372.

(4) If a court of competent jurisdiction declares section 75-5-313 or any portion of that statute invalid or if the United States environmental protection agency disapproves section 75-5-313 or any portion of that statute under 30 C.F.R. 131.21, then the significance criteria contained in subsection (1)(g) are the significance criteria for total nitrogen and total phosphorus in surface water. (History: 75-5-301, 75-5-303, MCA; IMP, 75-5-303, MCA; NEW, 1994 MAR p. 2136, Eff. 8/12/94; AMD, 1995 MAR p. 1040, Eff. 6/16/95; AMD, 1995 MAR p. 2256, Eff. 10/27/95; TRANS, from DHES, 1996 MAR p. 1499; AMD, 2002 MAR p. 387, Eff. 2/15/02; AMD, 2003 MAR p. 217, Eff. 2/14/03; AMD, 2004 MAR p. 725, Eff. 4/9/04; AMD, 2006 MAR p. 528, Eff. 2/24/06.)

REASON: The proposed amendments to ARM 17.30.715 will allow the department to calculate nonsignificant changes in water quality for the base numeric nutrient standards in circular DEQ-12 Part A. If adopted by the board, base numeric nutrient standards will preclude the need to use the narrative standards at ARM 17.30.637(1)(e) to interpret eutrophication-based water quality impacts from nutrients. Base numeric nutrient standards are intended to control eutrophication (see definition of eutrophication in Overview), and at the concentrations found in circular DEQ-12 Part A the department considers base numeric nutrient standards to be harmful parameters. Therefore, DEQ-12 Part A is incorporated into (f), the section of the nondegradation rules addressing nonsignificance specific to harmful parameters. Nitrogen compounds at concentrations that are toxic, e.g. nitrate at 10 mg/L, will remain in DEQ-7 (as discussed earlier) and toxics-based nonsignificance criteria applicable to such compounds will continue to be applied to them. The strike-out in (c) corresponds with the retention of toxic-level nitrogen compounds in DEQ-7, and the move of eutrophication-based nitrogen and phosphorus standards to DEQ-12 Part A. Part 4 of the rule is a non-severability clause. If the statute that defines the nutrient standards variance process is rendered invalid, then the numeric nutrient standards in DEQ-12 Part A no longer apply and the narrative standard for nutrients at 17.30.637(1)(e) applies. As a result, the part of the nondegradation rules here (17.30.715[1][g]) that relates to the narrative standard would apply. The legislature intended that both major pieces of the numeric nutrient standards rules (base numeric standards, variances) remain together as a package.

NEW RULE I: NUTRIENT STANDARDS VARIANCES

(1) A person may apply to the department for a nutrient standards variance at any time following the board's adoption of base numeric nutrient standards. An application for a general variance must provide information demonstrating that the wastewater treatment facility meets the requirements of 75-5-313(5)(b), MCA, or updated concentrations subsequently adopted by the department. The decision to grant the general variance will be reflected in the permit that is made available for public comment.

(2) An application for an individual variance must provide adequate demonstration that there are no reasonable alternatives that eliminate the need for a variance and that attainment of the base numeric nutrient standards is precluded due to economic impacts, the limits of technology, or both. If the demonstration relies upon economic impacts, the demonstration must be consistent with the guidelines developed by the department and the nutrient work group, as provided in 75-5-313(2), MCA.

(3) The department may approve the adoption of an individual variance that specifies interim effluent limits different from what would apply under an updated (i.e., more stringent than 75-5-313(5)(b), MCA) general variance where water quality modeling demonstrates that greater emphasis on the reduction of one nutrient may achieve similar water quality and biological improvements as would the equal reduction of both nitrogen and phosphorus. Such effluent limits must reflect the lowest effluent concentration that is feasible based on achieving the highest attainable condition for the receiving water. A person shall submit the proposed effluent limits and supporting data in any demonstration they make for an application for an individual nutrient variance under paragraph (2).

(a) The person who has effluent limits in their individual variance based on paragraph (3) shall collect and submit water quality data to demonstrate in each subsequent triennial review that the biological status of the receiving water continues to justify those effluent limits.

(4) The department shall review each application for an individual variance to determine whether a reasonable alternative, such as trading, a permit compliance schedule, a general variance, reuse, recharge, or land application would eliminate the need for an individual variance. If the department makes a preliminary finding that a reasonable alternative to approving an individual variance is available, the department shall consult with the applicant prior to making a final decision to approve or deny the individual variance.

(5) If, after consultation with the applicant, the department determines that no reasonable alternative to an individual variance exists, the department shall determine whether the information provided by the applicant pursuant to (2) adequately demonstrates that attaining the base numeric nutrient standards is not feasible. If the department finds that attaining the base numeric nutrient standards is not feasible, the department shall approve an individual variance, which will become effective and incorporated into the applicant's permit only after adoption by the department in a formal rulemaking proceeding.

(6) Based on the triennial review findings and conclusions, and with respect to both general and individual variances, the department must issue a rulemaking proposal

for public comment. The proposal must solicit comments from the public on whether each variance should be: (1) re-adopted without changes, (2) re-adopted with changes, or (3) terminated. This will include general variance categories and the interim limits for each category, but not identification of specific facilities included in each category. Based on the review conclusions and public comment, the department shall revise Montana's water quality standards to reflect either (1) new interim limits to apply during the variance or (2) the continuation of the previous interim limits.

(7) A variance is not needed in situations where a person complies with the waste load allocation established in an approved TMDL.

REASON: The Department is proposing New rule I (1) through (7) to implement Senate Bill 367 (2011 Legislature), which is codified at §75-5-313, MCA. New Rule I (1), (2), (3), (4), and (5) provide a process by which a person is granted a general variance, and factors the department will consider when deciding whether a person may be granted an individual nutrient standards variance. In New Rule I (1), it is made clear that variances are available only after the time that the board adopts numeric nutrient criteria as standards. The department is required to adopt the statute-defined general variance categories and their associated concentrations/conditions into department rule by May 31, 2016. After that, the concentrations/conditions associated with each category may be updated (i.e., made more stringent) by the department in the department's rules.

New Rule I (2) requires the applicant to explore alternatives to discharging that may preclude the need for an individual variance. New Rule I (3) addresses the situation where water quality modeling for a river or stream segment indicates that greater reduction of one nutrient can achieve the same desired physical or biological condition as reducing nitrogen and phosphorus equally. In such cases, requiring a point source discharger to immediately install sophisticated nutrient-removal technologies to reduce the concentration of the nutrient which is currently of less importance to levels more stringent than what is in statute (75-5-313(5)(b), MCA) may not be the most prudent nutrient control expenditure, and would cause the discharger to incur unnecessary economic expense. Since this relates to economic impacts, as described at 75-5-313(1), MCA, the department believes these situations are best addressed as individual variances. Nutrient limitation status of waterbodies can change due to a number of factors, for example due to substantive nonpoint source cleanups upstream of the discharger. Therefore, status monitoring by dischargers receiving a model-based individual variance is required per New Rule I (3)(a). The potential impacts to the downstream waterbody, including impacts from the non-target nutrient, must be given consideration in all cases where New Rule I (3) is invoked. As described in DEQ-12 Part B, if a downstream waterbody will be impacted, some level of reduction on the target and/or non-target nutrient will likely be required, or the individual variance may not be granted.

New Rule I (4) allows the department to consult with the applicant regarding what the department perceives to be the availability of reasonable alternatives which would preclude the need for the individual variance. This consultation would occur before the department makes a final decision regarding the granting of the individual variance. If it results that no reasonable alternative can be identified, New Rule I (5) instructs the department to determine if the applicant has adequately demonstrated that attaining the standards is infeasible. This may be undertaken using guidance developed by the department and the nutrient work group. The guidance document

provides (a) a process to assess economic hardship that would be incurred by the applicant if the applicant were to meet the standards at the time of the application, and (b) a description of technical analyses (e.g., modeling, monitoring) that could be completed to demonstrate one nutrient is more important (and thus needs to be reduced) than the other. A definition defining the limits of technology for nutrient removal is also available in guidance for those cases where the individual variance is based on the limits of technology.

New Rule I (6) describes the review and public comment process that will be carried out every three years, and the outcomes that may occur as a result. New Rule I (7) simply makes clear that in the development of a TMDL it may be determined that a point source discharger is an insignificant load of nutrients to a waterbody, and in such cases there would be no need for the discharger to request a nutrient standards variance because the current level of total nitrogen and total phosphorus removal is adequate.